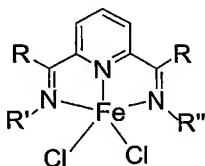


CLAIMS.

- 5 1. A method for preparing a catalyst component suitable for the preparation of bimodal polymers that comprises the steps of:
- a) providing hollow beads of polyethylene of controlled morphology and size;
 - b) drying the hollow beads under vacuum;
 - 10 c) impregnating the dried hollow beads with a concentrated solution of the desired catalyst component under vacuum;
 - d) returning the impregnated hollow beads slowly to atmospheric pressure;
 - e) draining excess liquid;
 - 15 f) drying under inert gas at atmospheric pressure.
2. The method of claim 1 wherein the impregnation time is of from???
3. The method of claim 1 wherein the impregnation is carried out at atmospheric pressure and wherein the impregnation time is of about 30 minutes.
- 20 4. The method of claim 1 wherein after step e) the impregnated and dried beads are washed for a period of time of from 30 to 60 seconds and then rapidly drained and dried.
- 25 5. The method of any one of claims 1 to 4 wherein the hollow beads of polyethylene are prepared by the steps of:
- i) providing a supported catalyst component wherein the support is a porous functionalised bead of polystyrene and wherein the catalyst
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component is covalently bound to the support and is an iron based complex of general formula (I)



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(I)

wherein the R's are the same and are an alkyl having from 1 to 20 carbon atoms and wherein R' and R'' are the same or different and are a substituted or unsubstituted alkyl having from 1 to 20 carbon atoms, or a substituted or unsubstituted aryl having substituents from 1 to 20 carbon atoms;

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- ii) activating the supported catalyst with a suitable activating agent;
- iii) feeding the ethylene (or other??) monomer;
- iv) maintaining under polymerization conditions;
- v) retrieving hollow beads of polyethylene of controlled morphology and size.

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6. The method of claim 5 wherein R is methyl.

7. The method of claim 5 or of claim 6 wherein R' and R'' are the same and are substituted or unsubstituted phenyl .

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8. The method of claim 7 wherein the substituents on the phenyls are located at positions 2 and 6 are the same and are isopropyl.

9. A catalyst component obtainable by the method of any one of claims 1 to 8.

10. A catalyst system for preparing a bimodal polymer comprising:

- a) the catalyst component of claim 9;
- b) an activating agent.

11. The catalyst system of claim 10 wherein the activating agent is methylaluminoxane.

12. A method for preparing a bimodal polymer comprising the steps of:

- a) preparing hollow beads of a first polymer in a first reaction zone;
- b) retrieving the hollow beads of polymer from the first reaction zone;
- c) preparing the catalyst system of claim 10 or claim 11 between the two reaction zones;
- d) injecting the catalyst system of step c) and the second monomer into the second reaction zone;
- e) maintaining under polymerisation conditions;
- f) retrieving a bimodal polymer.

13. The method of claim 12 wherein the second monomer is an α -olefin having from 1 to 4 carbon atoms.

14. The method of claim 12 or claim 13 wherein the first and second reaction zones are loop reactors.

15. A bimodal polymer obtainable by the method of any one of claims 12 to 14.

16. Use of the catalyst system of claim 10 or claim 11 to prepare bimodal polymers.